Climate Economics Economic Analysis Of Climate Climate Change And Climate Policy

Economics, Ethics, and Environmental Policy: Contested Choices offers a comprehensive analysis of the ethical problems associated with basing environmental policy on economic analysis, and ways to overcome these problems.

We study the long-term impact of climate change on economic activity across countries, using a stochastic growth model where labor productivity is affected by country-specific climate variables—defined as deviations of temperature and precipitation from their historical norms. Using a panel data set of 174 countries over the years 1960 to 2014, we find that per-capita real output growth is adversely affected by persistent changes in the temperature above or below its historical norm, but we do not obtain any statistically significant effects for changes in precipitation. Our counterfactual analysis suggests that a persistent increase in average global temperature by 0.04°C per year, in the absence of mitigation policies, reduces world real GDP per capita by more than 7 percent by 2100. On the other hand, abiding by the Paris Agreement, thereby limiting the temperature increase to 0.01°C per annum, reduces the loss substantially to about 1 percent. These effects vary significantly across countries depending on the pace of temperature increases and variability of climate conditions. We also provide supplementary evidence using data on a sample of 48 U.S. states between 1963 and 2016, and show that climate change has a long-lasting adverse impact on real output in various states and economic sectors, and on labor productivity and employment.

The relationship between economic growth and the environment is at the forefront of public attention and poses serious challenges for policymakers around the world. Economic Analysis of Environmental Policy, a textbook for advanced undergraduate and graduate courses, provides a rigorous and thorough explanation of modern environmental economics, applying this exposition to contemporary issues and policy analysis. Opening with a discussion of contemporary pollution problems, institutional players and the main policy instruments at our disposal, Ross McKitrick develops core theories of environmental valuation and optimal control of pollution. Chapters that follow cover issues like tradable permits, regulatory standards, emission taxes, and polluter liability as well as advanced topics like trade and the environment, sustainability, risk, inequality, and self-monitoring. Throughout, McKitrick uses clear, intuitive, and coherent analytical tools, so that students, academics, and practitioners can develop their policy analysis skills while comprehending the debates and challenges at the frontier of this exciting and rapidly-developing field.

A framework is concisely presented for the economic analysis of pollution problems and for evaluating proposed solutions. The substantial recent literature

on environmental economics is reviewed and related to Ontario environmental policy. Topics include the theory of externalities as an explanation of environmental problems, policy objectives, costs of information and monitoring, and the impact of these costs on control policy selection. Three case studies of specific pollution problems – sulphur dioxide from a smelter, lead from downtown factories, and urban automobile emissions – are given, and possible solutions explored. The authors' methodology is applicable not only to air and water pollution but also to noise, aesthetic degradation, and solid waste. This study will be welcomed by specialists, civil servants, and students trying to understand the economic aspects of environmental maintenance.

This unique textbook offers comprehensive coverage of the economics of climate change and climate policy, and is suitable for advanced undergraduate, post-graduate and doctoral students. Topics discussed include the costs and benefits of adaptation and

Despite their obvious importance, the ethical implications of climate change are often neglected in economic evaluations of mitigation and adaptation policies. Economic climate models provide estimates of the value of mitigation benefits, provide understanding of the costs of reducing emissions, and develop tools for making policy choices under uncertainty. They have thus offered theoretical and empirical instruments for the design and implementation of a range of climate policies, but the ethical assumptions included in the calculations are usually left unarticulated. This book, which brings together scholars from both economics and ethical theory, explores the interrelation between climate ethics and economics. Examining a wide range of topics including sustainability, conceptions of value, risk management and the monetization of harm, the book will explore the ethical limitations of economic analysis but will not assume that economic theory cannot accommodate the concerns raised. The aim in part is to identify ethical shortcomings of economic analysis and to propose solutions. Given the on-going role of economics in government thinking on mitigation, a constructive approach is vital if we are to deal adequately with climate change. This volume will be of great interest to students and scholars of environmental ethics, economics, political science, political philosophy and the philosophy of economics.

Climate change represents an increasing threat to the continued development of the people, preservation of ecosystems, and economic growth of Asia and the Pacific. Mainstreaming climate risk management in all aspects of development is thus key to an effective transition to climate-resilient development pathways. ADB's climate risk management framework aims to reduce risks resulting from climate change to investment projects in Asia and the Pacific. A key step in this framework is the technical and economic valuation of climate-proofing measures. This report describes the conduct of the cost-benefit analysis of climate proofing investment projects. An important message is that the presence of uncertainty about climate change does not invalidate the conduct of the economic analysis of

investment projects, nor does it require a new type of economic analysis. However, the presence of uncertainty does require a different type of decision-making process in which technical and economic expertise combine to present decision makers with the best possible information on the economic efficiency of alternative designs of investment projects.

Climate EconomicsEconomic Analysis of Climate, Climate Change and Climate Policy, Second EditionEdward Elgar Publishing

Climate change threatens the economy of the United States in myriad ways, including increased flooding and storm damage, altered crop yields, lost labor productivity, higher crime, reshaped public-health patterns, and strained energy systems, among many other effects. Combining the latest climate models, state-of-the-art econometric research on human responses to climate, and cutting-edge private-sector risk-assessment tools, Economic Risks of Climate Change: An American Prospectus crafts a game-changing profile of the economic risks of climate change in the United States. This prospectus is based on a critically acclaimed independent assessment of the economic risks posed by climate change commissioned by the Risky Business Project. With new contributions from Karen Fisher-Vanden, Michael Greenstone, Geoffrey Heal, Michael Oppenheimer, and Nicholas Stern and Bob Ward, as well as a foreword from Risky Business cochairs Michael Bloomberg, Henry Paulson, and Thomas Steyer, the book speaks to scientists, researchers, scholars, activists, and policy makers. It depicts the distribution of escalating climate-change risk across the country and assesses its effects on aspects of the economy as varied as hurricane damages and violent crime. Beautifully illustrated and accessibly written, this book is an essential tool for helping businesses and governments prepare for the future.

This book is a philosophical critique of the economics of climate change from both an ethical and philosophy of economics perspective. Mitigating climate change is not so much a scientific problem, but rather a political, social and above all an economic problem. A future without greenhouse gas emissions requires a radical transformation towards a sustainable low-carbon economy and society. How this transformation could be achieved raises numerous economic questions. Many of these questions remain untouched, although economists are equipped with a suitable toolkit and expertise. This book argues that economists have a social responsibility to carry out more research on how global warming could be stopped and that, ultimately, economic analysis of climate change must be a political economic approach that treats the economy as part of a wider social system. This approach will be of interest to policy makers, educators, students and researchers in support of more pluralism in economic research and teaching.

"Policy-makers often call for expanding public spending on infrastructure, which includes a broad range of investments from roads and bridges to digital networks that will expand access to high-speed broadband. Some point to near-term macro-economic benefits and job creation, others focus on long-term effects on productivity and economic growth. This volume explores the links between infrastructure spending and economic outcomes, as well as key economic issues in the funding and management of infrastructure projects. It draws together research studies that describe the short-run stimulus effects of infrastructure spending, develop new estimates of the stock of U.S. infrastructure capital, and explore the incentive aspects of public-private partnerships (PPPs). A salient issue is the treatment of risk in evaluating publicly-funded infrastructure projects and in connection with PPPs. The goal of the volume is to provide a reference for researchers seeking to expand research on infrastructure issues, and for policy-makers tasked with determining the appropriate level of infrastructure spending"--

This book explores recent developments in environmental cost-benefit analysis (CBA). This is defined as the application of CBA to projects or policies that have the deliberate aim of

environmental improvement or are actions that affect, in some way, the natural environment as an indirect consequence

The specific focus of this seminal work is on the economic impact of climate change on agriculture world wide, and how faced with the resultant environmental alterations, agriculture might adapt under varied and varying conditions. Enhanced with a detailed and comprehensive index, Climate Change and Agriculture is highly recommended for academic library environmental studies and economic studies reference collections and supplemental reading lists. The Midwest Book Review Despite its great importance, there are surprisingly few economic studies of the impact of climate on agriculture and how agriculture can adapt under a variety of conditions. This book examines 22 countries across four continents, including both developed and developing economies. It provides both a good analytical basis for additional work and solid results for policy debate concerning income distributional effects such as abatement, adaptation, and equity. Agriculture and grazing are a central sector in the livelihood of many people, particularly in developing countries. This book uses the Ricardian method to examine the impact of climate change on agriculture. It also quantifies how farmers adapt to climate. The findings suggest that agriculture in developing countries is more sensitive to climate than agriculture in developed countries. Rain-fed cropland is generally more sensitive to warming than irrigated cropland and cropland is more sensitive than livestock. The adaptation to climate change results reveal that farmers make many adjustments including switching crops and livestock species, adopting irrigation, and moving between livestock and crops. The results also reveal that impacts and adaptations vary a great deal across landscapes, suggesting that adaptation policies must be location specific. Finally, the book suggests a research agenda for the future. Economists in academia and the public sector, policy analysts and development agencies will find this broad study illuminating.

It has always been thought that some level of pollution and waste is unavoidable in development projects. But no one has made much effort to quantify and assess the extent of this sort of damage. In this book a group of analysts from the Asian Development Bank and from the East West Center propose a means of constructing useful economic evaluations of the impacts of development projects on the environments in which they are constructed. This study demands the systematic evaluation of all the intentional and unintentional consequences of development initiatives before they are determined upon. It is essential reading for development economists, analysts and bankers. Originally published in 1986

Climate change is profoundly altering our world in ways that pose major risks to human societies and natural systems. We have entered the Climate Casino and are rolling the global-warming dice, warns economist William Nordhaus. But there is still time to turn around and walk back out of the casino, and in this essential book the author explains how.div /DIVdivBringing together all the important issues surrounding the climate debate, Nordhaus describes the science, economics, and politics involved—and the steps necessary to reduce the perils of global warming. Using language accessible to any concerned citizen and taking care to present different points of view fairly, he discusses the problem from start to finish: from the beginning, where warming originates in our personal energy use, to the end, where societies employ regulations or taxes or subsidies to slow the emissions of gases responsible for climate change./DIVdiv /DIVdivNordhaus offers a new analysis of why earlier policies, such as the Kyoto Protocol, failed to slow carbon dioxide emissions, how new approaches can succeed, and which policy tools will most effectively reduce emissions. In short, he clarifies a defining problem of our times and lays out the next critical steps for slowing the trajectory of global warming./DIV

Climate Crisis Economics draws on economics, political economy, scientific literature, and data to gauge the extent to which our various communities – political, economic, business – are making the essential leap to a new narrative and policy approach that will accelerate us

towards the necessary transition to a decarbonized economy and sustainable future. The book draws out policies and practices with both national and local examples, which will demonstrate various complementary approaches that are empowering states and people as they seek to pursue the carbon neutral goal. The author delineates a climate crisis economics approach that is fit for purpose and which can help achieve necessary climate change goals in the decades ahead. Ensuring economic and ecological sustainability is neither easy nor cost-free; there is no single solution to the climate crisis. All aspects of our economies, policies, business, and personal practices must come into alignment in order to succeed. Frustratingly, we know what is needed and we have many of the technologies and systems to make the leap to a carbon neutral economy, yet we still fail to act with alacrity. Leaders, communities, and businesses must shift their narratives in how they talk about and think about the climate crisis. In doing so, in making the narrative leap to a new understanding about what is possible and necessary, we can stop endangering our common future and single, fragile, global habitat, and instead set the stage for Green Globalisation 2.0 and a new, sustainable industrial revolution. Climate Crisis Economics will appeal to academics, students, investors, and professionals from varying disciplines including politics, international political economy, and international economics. Written in an accessible voice, it draws on work in fields outside of and in addition to politics and economics to make a case for climate crisis economics as an approach to addressing the climate change challenge ahead.

Governments around the globe have begun to implement various actions to limit carbon emissions and so, combat climate change. This book brings together some of the leading scholars in environmental and climate economics to examine the distributional consequences of policies that are designed to reduce these carbon emissions. Whether through a carbon tax, cap-and-trade system or other mechanisms, most proposals to reduce carbon emissions include some kind of carbon pricing system Ð shifting the costs of emissions onto polluters and providing an incentive to find the least costly methods of abatement. This standard efficiency justification for pricing carbon also has important distributional consequences Ð a problem that is often ignored by economists while being a major focus of attention in the political arena. Leading scholars in environmental and climate economics take up these issues to examine such questions as: Will the costs fall on current or future generations? Will they fall on the rich, poor, middle class, or on everyone proportionally? Which countries will benefit, and which will suffer? Students and scholars interested in climate change, along with policy makers, will find this lively volume an invaluable addition to the quest for information on this globally important issue.

Worst-case scenarios are all too real, and all too common. The financial crisis of 2008 was not the first or the last to destroy jobs, homeownership and the savings of millions of people. Hurricanes clobber communities from New York to Bangladesh. How bad will the next catastrophe be, and how soon will it happen? Climate and financial crises are serious events, requiring vigorous responses. Yet public policy is trapped in an obsolete framework, with a simplistic focus on average or likely outcomes rather than dangerous extremes. What would it take to create better analyses of extreme events in climate and finance, and an appropriate policy framework for worst-case risks? ‘Worst-Case Economics: Extreme Events in Climate and Finance’ offers accessible and surprising answers to these crucial questions.

How can we design environmental policy that achieves ambitious ecological goals without burdening society with excessive costs? How can effective international agreements, for example, on global warming, be designed? This textbook discusses issues such as these in an intelligible manner for students. The book uses little mathematical analysis, relying on verbal and graphical analysis.

This book shows how careful attention to moral reasoning can enrich economic understanding and clarify the importance and the limits of an economic analysis of policy problems.

The 2nd edition of An Introduction to Climate Change Economics and Policy explains the key scientific, economic and policy issues related to climate change in a completely up-to-date introduction for anyone interested, and students at all levels in various related courses, including environmental economics, international development, geography, politics and international relations. FitzRoy and Papyrakis highlight how economists and policymakers often misunderstand the science of climate change, underestimate the growing threat to future civilization and survival and exaggerate the costs of radical measures needed to stabilize the climate. In contrast, they show how direct and indirect costs of fossil fuels – particularly the huge health costs of local pollution – actually exceed the investment needed for transition to an almost zero carbon economy in two or three decades using available technology.

What does free market environmentalism have to say about Love Canal, Cleveland's burning Cuyahogo River, golf course pollution, EPA's Toxic Release Inventory Requirement, nonpoint source pollution and river basin associations? In this revealing book Bruce Yandle has compiled eleven essays that address these concerns and provide the reader with an in-depth, market-based analysis of evolving environmental institutions and regulations. This book is essential reading for students and scholars of environmental economics, politics, and law.

"The Economic Analysis of Environmental Policy and Law covers many of the recent advances in the field and attempts to integrate some of the most crucial legal and economic instruments which, in the authors' view, have not yet been subjected to proper analysis. These include zoning, expropriation, licensing, third party liability, safety regulation, mandatory insurance and criminal sanctions. The authors pay particular attention to the interrelationships of these instruments and their various economic effects. Using a comparative law and economics methodology, they are also able to incorporate environmental law with international policy and investigate the many diverse rules of the legal system and their implementation in different countries. Crucially, the authors do not consider economics as the exclusive determinant in legal rule-making. They also highlight the need for ethical considerations and illustrate the potential limitations of pure economic analysis."--Pub. desc.

A collection of scholarly accounts and articles written by recognized experts in environmental economics, this book is the first of its kind and as a valuable reference and textual source for graduate students and active researchers. It draws together the pedagogical discussion of the key tools used to conduct theoretical and empirical research in natural resource and environmental economics. With contributions by prominent international researchers like Robert Ayres, Charles Perrings and Anastasios Xepapadeas, the book will be useful for researchers who wish to learn new techniques or change their area of research emphasis within natural resource and environmental economics or those who wish to familiarize themselves with these tools.

Focusing on air pollution, energy efficiency and climate change, this book provides an introduction to Japan’s environmental policies and regulations, and offers economic analyses and RIAs (Regulatory Impact Analysis) of environmental regulations implemented or planned by the national and local governments. The opening chapter reviews environmental economics and outlines the current status of RIAs in Japan. Chapter 2 analyzes the NOx-PM Act, which prohibits the use of old and polluting vehicles in metropolitan areas. Chapter 3 examines a Tokyo metropolitan government regulation which requires installation of pollution control equipment in older trucks that fail to meet emission standards. Chapter 4 traces the impact of the NOx-PM Act on the used car market and used vehicle exports. Chapter 5 presents an economic analysis of a highway toll reduction, revealing an unexpected negative social impact: it increased traffic congestion and associated environmental problems. The final three chapters address policies and regulations related to energy efficiency and climate change

Chapter 6 evaluates the effectiveness of Japan's Energy Conservation Act, originally introduced in 1979 and amended numerous times to address climate change. Chapter 7 anticipates the impact of a proposed economy-wide carbon tax, using input-output analysis to assess short-term economic impacts in each sector. Also presented here is an examination of the effectiveness of a reduced carbon tax for energy-intensive industries, with a discussion of the impact of the proposal on households. The final chapter discusses the role and limitations of economic models for evaluating Japan's mid-term GHG (Greenhouse Gas) emission target during the post-Kyoto period. This is the first book to evaluate Japanese environmental policies from an economic perspective, using a variety of current quantitative approaches. Its findings and suggestions will benefit students, policy makers and government officials in developing and developed countries where the public faces similar environmental problems.

There is a small and growing literature that explores the impact of digitization in a variety of contexts, but its economic consequences, surprisingly, remain poorly understood. This volume aims to set the agenda for research in the economics of digitization, with each chapter identifying a promising area of research. Economics of Digitizationidentifies urgent topics with research already underway that warrant further exploration from economists. In addition to the growing importance of digitization itself, digital technologies have some features that suggest that many well-studied economic models may not apply and, indeed, so many aspects of the digital economy throw normal economics in a loop.Economics of Digitization will be one of the first to focus on the economic implications of digitization and to bring together leading scholars in the economics of digitization to explore emerging research.

Climate science paints a bleak picture: The continued growth of greenhouse gas emissions is increasingly likely to cause irreversible and catastrophic effects. Urgent action is needed to prepare for the initial rounds of climatic change, which are already unstoppable. While the opportunity to avert all climate damage has now passed, well-designed mitigation and adaptation policies, if adopted quickly, could still greatly reduce the likelihood of the most tragic and far-reaching impacts of climate change. Climate economics is the bridge between science and policy, translating scientific predictions about physical systems into projections about economic growth and human welfare that decision makers can most readily use but it has too often consisted of an overly technical, academic approach to the problem. Getting climate economics right is not about publishing the cleverest article of the year but rather about helping solve the dilemma of the century. The tasks ahead are daunting, and failure, unfortunately, is quite possible. Better approaches to climate economics will allow economists to be part of the solution rather than part of the problem. This book analyzes potential paths for improvement.

This book introduces the basic tools of dynamic optimization in economics to study environmental problems, applies econometric methods to estimate and test the models derived by dynamic optimization, and discusses environmental problems in a broad perspective, including the design and implementation of environmental policies. Although the coverage is selective, it represents what the author has to offer from his perspective and experience gained in research in dynamic optimization, econometrics and policy analysis, especially for China. The volume is self-contained for readers with mathematical background of first-year graduate students in the analytical fields of

science and engineering but only limited training in economics, while an economics text presumes more knowledge of economics. Once the tools are mastered, the reader can pursue his own research on the topic if he is interested, or simply become a more mature citizen in the global economy.

This unique and erudite second edition can be used at three different levels – advanced undergraduate, post-graduate and doctoral. It comprehensively covers the critical issues on the economics of climate change and climate policy features and clearly identifies the specific sections each level of reader should explore. Topics include the costs and benefits of adaptation and mitigation, discounting, uncertainty, policy instruments, and international agreements. Lectures can be combined with exercises, guided reading, or the building and application of an integrated assessment model. The book is accompanied by a website with background material, data, opinion pieces and videos. Although primarily intended for use in the classroom, anyone with an interest in climate policy can use this text as a reference.

Land has long been overlooked in economics. That is now changing. A substantial part of the solution to the climate crisis may lie in growing crops for fuel and using trees for storing carbon. This book investigates the potential of these options to reduce greenhouse gas emissions, estimates the costs to the economy, and analyses the trade-offs with growing food. The first part presents new databases that are necessary to underpin policy-relevant research in the field of climate change while describing and critically assessing the underlying data, the methodologies used, and the first applications. Together, the new data and the extended models allow for a thorough and comprehensive analysis of a land use and climate policy. This book outlines key empirical and analytical issues associated with modelling land use and land use change in the context of global climate change policy. It places special emphasis on the economy-wide competition for land and other resources, especially; The implications of changes in land use for the cost of climate change mitigation, Land use change as a result of mitigation, and Feedback from changes in the global climate to land use. By offering synthesis and evaluation of a variety of different approaches to this challenging field of research, this book will serve as a key reference for future work in the economic analysis of land use and climate change policy.

Environmental issues are of fundamental importance, and a broad approach to understanding the relationship of the human economy and the natural world is essential. In a rapidly changing policy and scientific context, this new edition of Environmental and Natural Resource Economics reflects an updated perspective on modern environmental topics. Now in its fourth edition, this book includes new material on climate change, the cost-competitiveness of renewable energy, global environmental trends, and sustainable economies. The text provides a balanced treatment of both standard environmental economics and ecological economics, based on the belief that these two approaches are complementary. Several chapters focus on the core concepts of environmental economics, including the theory of externalities, the management of public goods, the allocation of resources across time, environmental valuation, and cost-benefit analysis. Material on ecological economics includes such topics as macroeconomic scale, entropy, and "green" national accounting. Topical chapters focus on: energy; climate change; water resources; international trade; forests; fisheries; and agriculture, with an emphasis on designing effective policies to

promote sustainability and a "green" economy. Harris and Roach's premise is that a pluralistic approach is essential to understand the complex nexus between the economy and the environment. This perspective, combined with its emphasis on real-world policies, is particularly appealing to both instructors and students. This is the ideal text for classes on environmental, natural resource, and ecological economics.

How can greenhouse gases be controlled and reduced? Will it be in time? This book adds a significant new contribution to the crucial climate change/global warming debate. Incorporating the key political and legal considerations into `real world' applied economic analysis, the authors provide a unique focus on the wider political economy of the problem. All the key issues of controlling climate change (costs, timing and degree of stabilisation, ecological taxt reform, developing countries, and evolution of international agreements), are placed firmly within the current legal and political context, with state-of-the-art economic techniques introduced to analyse different policy proposals. Covering both the developing and developed world, this book identifies important new policies to foster effective agreements on eissions and prevent global warming - realistic policies, likely to receive support at both international and domestic levels. be in time? This book adds a significant new contribution to the crucial climate change/global warming debate. Incorporating the key political and legal considerations into 'real world' applied economic analysis, the book's authors provide a unique focus on the wider political economy of the problem. All the key issues of controlling climate change (costs, timing and degree of stabilisation, ecological tax reform, developing countries and evolution of international agreements), are placed firmly within the current legal and political economy context, with state-of-the-art economic techniques introduced to analyse different policy proposals. Covering both the developing and developed world, this book identifies important new policies to foster effective agreements on emmissions and prevent global warming - realistic policies which are likely to receive support at both international and domestic levels.

This text features a study which examines 22 countries across four continents including both developed and developing economies. It looks at the impact of climate change on agriculture and provides a good analytical basis for additional work.

An urgent case for climate change action that forcefully sets out, in economic, ethical, and political terms, the dangers of delay and the benefits of action. The risks of climate change are potentially immense. The benefits of taking action are also clear: we can see that economic development, reduced emissions, and creative adaptation go hand in hand. A committed and strong low-carbon transition could trigger a new wave of economic and technological transformation and investment, a new era of global and sustainable prosperity. Why, then, are we waiting? In this book, Nicholas Stern explains why, notwithstanding the great attractions of a new path, it has been so difficult to tackle climate change effectively. He makes a compelling case for climate action now and sets out the forms that action should take. Stern argues that the risks and costs of climate change are worse than estimated in the landmark Stern Review in 2006—and far worse than implied by standard economic models. He reminds us that we have a choice. We can rely on past technologies, methods, and institutions—or we can embrace change, innovation, and international collaboration. The first might bring us some short-term growth but would lead eventually to chaos, conflict, and destruction. The second could bring about better lives for all and growth that is sustainable over the long term,

and help win the battle against worldwide poverty. The science warns of the dangers of neglect; the economics and technology show what we can do and the great benefits that will follow; an examination of the ethics points strongly to a moral imperative for action. Why are we waiting?

This anthology discusses important issues surrounding environmental law and economics and provides an in-depth analysis of its use in legislation, regulation and legal adjudication from a neoclassical and behavioural law and economics perspective. Environmental issues raise a vast range of legal questions: to what extent is it justifiable to rely on markets and continued technological innovation, especially as it relates to present exploitation of scarce resources? Or is it necessary for the state to intervene? Regulatory instruments are available to create and maintain a more sustainable society: command and control regulations, restraints, Pigovian taxes, emission certificates, nudging policies, etc. If regulation in a certain legal field is necessary, which policies and methods will most effectively spur sustainable consumption and production in order to protect the environment while mitigating any potential negative impact on economic development? Since the related problems are often caused by scarcity of resources, economic analysis of law can offer remarkable insights for their resolution. Part I underlines the foundations of environmental law and economics. Part II analyses the effectiveness of economic instruments and regulations in environmental law. Part III is dedicated to the problems of climate change. Finally, Part IV focuses on tort and criminal law. The twenty-one chapters in this volume deliver insights into the multifaceted debate surrounding the use of economic instruments in environmental regulation in Europe.

Using case studies to apply economic logic to real applications of environmental policy and regulation, this text examines contemporary environmental problems. It aims to provide students with an understanding of environmental economics that bridges the gap between theory and practice.

China faces many modernization challenges, but perhaps none is more pressing than that posed by climate change. China must find a new economic growth model that is simultaneously environmentally sustainable, can free it from its dependency on fossil fuels, and lift living standards for the majority of its population. But what does such a model look like? And how can China best make the transition from its present macro-economic structure to a low-carbon future? This ground-breaking economic study, led by the Stockholm Environment Institute and the Chinese Economists 50 Forum, brings together leading international thinkers in economics, climate change, and development, to tackle some of the most challenging issues relating to China's low-carbon development. This study maps out a deep carbon reduction scenario and analyzes economic policies that shift carbon use, and shows how China can take strong and decisive action to make deep reductions in carbon emission over the next forty years while maintaining high economic growth and minimizing adverse effects of a low-carbon transition. Moreover, these reductions can be achieved within the finite global carbon budget for greenhouse gas emissions, as determined by the hard constraints of climate science. The authors make the compelling case that a transition to a low-carbon economy is an essential part of China's development and modernization. Such a transformation would also present opportunities for China to improve its energy security and move its economy higher up the international value chain. They argue that even in

these difficult economic times, climate change action may present more opportunities than costs. Such a transformation, for China and the rest of the world, will not be easy. But it is possible, necessary and worthwhile to pursue.